Environmental Programs

Brownfields SRF

State Revolving Fund Loan Programs

Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

TOWN OF ZIONSVILLE

South Zionsville Sewer Project

STATE REVOLVING FUND PROJECT WW 09 38 06 01

DATE: October 22, 2009

TARGET PROJECT APPROVAL DATE: November 23, 2009

I. INTRODUCTION

The above entity has applied to the Waste Water State Revolving Fund (WWSRF) Loan Program for a loan to finance all or part of the waste water project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA, which can also be viewed at http://www.in.gov/ifa/srf/.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The WWSRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Sarah Hudson
Senior Environmental Manager
State Revolving Fund
100 N. Senate Ave. IGCN 1275
Indianapolis, IN 46204
317-232-8663; sahudson@ifa.in.gov

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:	South Zionsville Sewer Project Town of Zionsville 1100 West Oak Street Zionsville, IN 46077
SRF Project Number:	WW 09 38 06 01
Authorized Representative:	Mr. Edward J. Mitro, Town Manager

II. PROJECT LOCATION

The project area is located in Zionsville located in Southeast quadrant of Boone County. The town annexed a portion of the Boon County in Eagle Township in 2005. Figure 1-1 illustrates the study area boundaries including the annexed parcels, as well as a group of parcels just north of the annexation area east of Zionsville Road. A portion of the annexed area is already served by Clay Waste District and therefore is not included in the study area. All parcels in the annexed area shown in Figure 1-1 are currently unsewered. The proposed Project will be constructed within the Quadrant map areas listed below:

- Replacement of Eastern Interceptor - Zionsville Quadrangle, T17N, R2E, Section 2;
- New Lift Station - Zionsville Quadrangle, T17N, R2E, Section 1;
- New Sewer main to Eastern Interceptor - Zionsville Quadrangle, T17N, R2E, Section 1,2,11, and 12;
- New US 421 Low-pressure Sewers – Carmel Quadrangle, T17N, R2E, Section 36.

III. PROJECT NEED AND PURPOSE

The South Zionsville Road Sewer Project will provide sewer service to an area that is presently on septic systems and developable land that is without access to a sanitary sewer system. The Project will provide sewer service for existing residents and all future developable land identified in the study area. A letter from the Boone County Sanitarian justifies the project need, the health and environmental benefits associated with a municipal wastewater treatment system compared to the undersized and aging conventional on-site septic systems. Initially, the Project will take offline and connect to the proposed conveyance system, approximately twenty existing and aging septic systems. In addition, as part of this project, the existing 15-inch sanitary sewer interceptor made of vitrified clay pipe (VCP) will be replaced with gasketed 24"ductile iron pipe. The existing 15-inch interceptor experiences chronic operational problems such as system surcharging during wet weather events and has inadequate capacity to handle the existing flow as well as the proposed flow associated with the above referenced Project. In addition, given that the interceptor is located within the floodway limits of Little Eagle Creek it is imperative that the interceptor be appropriately sized and contain leak free joints to help minimize surcharging and pipe joint infiltration during wet weather.

IV. PROJECT DESCRIPTION

The Project proposes the addition of approximately 10,555 lineal feet of new gravity sanitary sewer, sanitary force main, low pressure sanitary sewer, as well as the addition of a new sanitary lift station. Flow from the proposed lift station as well as the existing 15-inch Eastern Interceptor will be conveyed to the existing Zionsville Main Lift Station via a proposed 24-inch interceptor sewer. The 24-inch interceptor will replace the existing 15-inch Eastern Interceptor is constructed of VCP that is both undersized for the additional service area and experiences excess infiltration and inflow (I/I). In addition, the future flow (as identified in the Zionsville Comprehensive Plan) totaling 1.68 MGD has been factored into the size of the 24-inch interceptor. The capacity of the 24-inch interceptor as designed is 5.68 MGD while the calculated peak flow is 5.2 MGD.

Wastewater flows from the residential areas along Zionsville Road (south of the old 106th Street) will be conveyed by gravity sewers increasing in size from 8-inch to 10-inch before discharging into the new lift station located at the old 106th Street and Zionsville Road. The flow from the residential areas east of Zionsville Road along the old 106th Street will be conveyed by a 3-inch low pressure sanitary sewer to the new lift station. This lift station has been designed to pump the initial flows with one (1) 525 gallons per minute (gpm) pump. Another 525 gpm pump would be installed as a standby. In order to accommodate future (ultimate) flows there is space for a third pump to be added at a later date, with one of the three pumps acting as a standby. Impellers would need to be changed on all three pumps when pumps are upgraded to accommodate future flows.

Each new connection to the low pressure sanitary sewer will be by way of a residential grinder pump. A new 1 ¼" low pressure sewer lateral will be installed at the resident's property line for future connection by the owner. Residents will connect using a pre-specified grinder pump and wet-well compatible with the 2-inch or 3-inch low pressure sanitary sewer design. All gravity sanitary connections for this project are to be made using a 6-inch PVC lateral pipe.

Similar to the low pressure sewer system designed along 106th Street, a low pressure system will be designed and built to serve the parcels identified along US 421.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

Construction Costs		
	Construction Sub-Total	$ 2,720,000
	Contingencies (10%)	$ 270,000
	Construction Total	$ 2,990,000
Non-Construction Costs		
Administrative and Legal		$ 100,000
Engineering Fees		$ 700,000
Project Inspection		$ 150,000
	Non-Construction Total	$ 950,000
	Total Project Cost	**$ 3,940,000**

B. The Town of Zionsville will finance the project with a 20-year loan from the State Revolving Fund (SRF) Loan Program at an interest rate to be determined at the time of loan closing.

Monthly user rates and charges may need to be analyzed to determine if adjustments are required for the loan repayment.

C. The cost of compensatory offsets/ mitigation planting for wetlands is ineligible for financing through the SRF Loan Program.

D. The Town's Preliminary Engineering Report (PER) indicates that energy efficiency opportunities have been incorporated in the design of the proposed Lift Station located near old 106th Street. This will need to be evaluated and verified further by preparing a business case as the Project proceeds forward.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

No Action: Without eliminating individual septic systems throughout the project area, there continues to be an ongoing risk of groundwater contamination throughout these areas. This Alternative includes the material and diameter upgrade of the existing Eastern Interceptor.

Alternative No. 1- Sewer Alignment No.1: Alternative No. 1 described providing sanitary service to parcels associated with the 2005 Annexation by constructing an interceptor along an existing rail bed west of Zionsville Road to a lift station located near the intersection of South Zionsville Road and 106th Street, just north of the Zionsville Cemetery. The shortest distance for this route was to go directly through the cemetery below an existing access road that bisects the cemetery from east to west. From the lift station, the sanitary flow would be pumped through a force main to an existing interceptor sewer discharging into the existing Zionsville Main Lift Station. This alternative included increasing the size of a portion of the interceptor leading to the Main Lift Station, and adding a low pressure force main to serve properties along the existing 106th Street. The low pressure force main to serve the parcels along US 421 was located along the property line because of the close proximity to the existing gravity manhole. In addition to the location of the existing sanitary sewer manhole, a number of conflicts would be avoided along the right of way of US 421. The construction method intended to be used to build the low pressure force main along US 421 is directional drilling, which will result in minimal disruption to the natural environment and property owners.

Alternative No.2- Sewer Alignment No.2: Alternative No. 2 is identical to Alternative No. 1 with the exception of re-routing the interceptor along South Zionsville Road to avoid the cemetery. This route would cross South Zionsville Road to avoid causing any impact to the cemetery property. The low pressure sewer system along US 421 was not changed from Alternative 1.

Alternative No. 2 was selected as the recommended option based on the need to avoid having a sanitary sewer in close proximity to the cemetery. After the original discussion with the cemetery manager, it was thought that going through the cemetery was an acceptable alternative. Even though this was thought to be an acceptable alternative, the Town of Zionsville later made a decision to re-route the sewer beyond the state legislated recommended distance from the grave sites. Alternative No. 2 adds an additional 300 feet of jack and boring underneath South Zionsville Rd, although the additional cost is offset by respecting the minimum distance required to keep public utilities from individual grave sites. Figure 5-3 illustrates the Project route.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Undisturbed/Disturbed Land:
The project site consists mostly of weedy growth within fragmented urban forested systems adjacent to railroad and road right-of-ways. The project will impact undisturbed land. Temporary impacts proposed for undisturbed land for this project includes 3.15 acres of Forested land, 2.7 acres of Horticultural Grass and 2.18 acres of Agricultural land.

The proposed lift station will be installed in undisturbed land. For the lines, portions of the undisturbed land will utilize Horizontal Directional Drilling (HDD) technologies to avoid surface excavation, specifically, the lines labeled "Proposed Low Pressure Main" on Figure 5-3, which are located along US 421 and 106th Street. These lines are also shown on Figures 5-5.3, 5-5.4 and 5-5.7. The Proposed Low Pressure Main along 106th Street (and the line running south) will be installed within the existing right of way. Minor trenching (<3-ft in depth) will take place to install the low pressure sewer house lateral connection points (all within the right of way). These connection points will be terminated at the right of way line. Connection to the house lateral connection points at the right of way (which include individual grinder pumps and appurtenances) will be the future responsibility of the individual homeowners. The line that runs south will be installed under the existing gravel drive. The Proposed Low Pressure Main along US 421 will connect to an existing manhole. And will be installed using the same method as the main along 106th Street. Lastly three stream crossings will be installed via HDD (see **Surface Waters** section below); otherwise, lines will be installed via the open cut method. The general site grading is expected to result in 1 to 2 feet of cut and fill. Excavations are expected to range between 5 to 25 feet for sewers.

Disturbed land impacts include road right-of-ways, residential lawns, and commercial property. All impacts are temporary in nature as the contours will be returned to original grade and re-vegetated as appropriate, excluding the construction of a lift station located at the southeast corner of the intersection of Zionsville Rd and 106th Street.

An archeological field reconnaissance and report were completed. One archaeological site, 12Bo538, was documented as a result of the reconnaissance. The site is documented as the remains of the Indiana Cincinnati and Louisville Railroad. The report indicates that, "The site is not likely eligible to the NRHP and no further recommendations are made with relation to this project".

Structural Resources:
The project will not affect historic sites or districts. See Figure 6. Audible, atmospheric or visual effects of the projects will be temporary. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "no historic properties affected."

Wetlands: The project includes two wetlands, Wetland 1 (W-1) and Wetland 5 (W-5); W-5 will be impacted. See Figure 5-3, a NWI map. A wetland determination was performed throughout the entire project area using the methodology of the *1987 Corps of Engineers Wetlands Delineation Manual.* See Figures 5-5.1, 5-5.2, 5-5.3, 5-5.4, 5-5.5, 5-5.6, 5-5.7, the delineated wetland and water bodies maps. Impact to Wetland 1 (W-1) will be avoided through HDD technology (Horizontal Directional Drilling). Wetland 5 (W-5) will have a temporary impact of 0.089 acre. The area will be returned to original grade and planted with a

floodplain wetland seed mixture in addition to trees and shrubs upon completion of pipe installation. This mitigation proposal has been accepted by the Indiana Department of Environmental Management (approval ID# 2008-301-06-EMP-X), the U.S. Army Corps of Engineers (approval ID No. LRL-2008-46-cmh), and the Indiana Department of Natural Resources (application # FW-25071). Mitigation measures to lessen and compensate for wetland impacts cited in comment letters about the project will be implemented. Mitigation measures are described below.

Surface Waters:
The project includes nine stream crossings. See Figures 5-5.1, 5-5.2, 5-5.3, 5-5.4, 5-5.5, 5-5.6, 5-5.7, the delineated wetland and water bodies maps.

Field Name	Water Body Name	Construction Method
Stream 1	Cemetery Creek	Open Cut
Stream 2	Trib of Cemetery Creek	Open Cut
Stream 4	Trib of Eagle Creek	Open Cut
Stream 5	Trib of Eagle Creek	Open Cut
Stream 7	Trib of Eagle Creek	Open Cut
Stream 10	Eagle Creek	HDD
Stream 11	Trib of Eagle Creek	Above OHWM
Stream 12	Trib of Lost Run	HDD
Stream 13	Lost Run	HDD

Streams s1, s2, s4, s5 and s7 will have temporary impacts made by the open cut method. Stream s11 will not be impacted by pipeline construction activities as the installation will be above and outside the ordinary high water mark (OHWM). Streams s10, s12, and s13 will be avoided by the use of horizontal directional drilling (HDD).

The project will not adversely affect waters of high quality listed in 327 IAC 2-1-2(3), exceptional use streams listed in 327 IAC 2-1-11(b), Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), Salmonid Streams listed in (327 IAC 2-1.5-5(a)(3), or waters on the Outstanding Rivers list (Natural Resources Commission Non-rule Policy Document).

100-Year Floodplain and Floodway: The proposed lift station will not be in the 100-year floodplain but a portion of the lines will be in the 100-year floodplain associated with Eagle Creek (see Figure 5-6). Open cut and HDD technology will be used to install the lines. Temporary impacts due to open cutting will occur on the north portion of the floodplain area, impacting 0.034 acre of forested floodway. Contours in this area will be put back to original grades and installed with native grass, forbs, shrubs, and tree species. The constructed project will not cause displacement of floodwaters, since the lines will be underground. This mitigation proposal has been approved by the IDNR. IDNR issued a Certificate of Approval for Construction in a Floodway, dated February 13, 2009, application # FW-25071.

Groundwater: Dewatering will likely be necessary during excavations for a portion of the gravity sanitary sewer and lift station wet well, as construction of these areas will likely occur at or below the groundwater table. Best Management Practices will be in place to control sediment from dewatering activities due to dewatering and other construction activities entering nearby waterways. These include: Silt fencing, rock check dams, erosion control matting, and temporary seeding and mulching. If affected, the groundwater table will return

to normal levels following construction. The project will not affect a sole source aquifer or other drinking water supply.

Plants and Animals:
The proposed project will clear 0.034 acre of bottomland hardwood forest in the floodplain of Eagle Creek. This area will be replanted with similar native tree species. In addition, trees and shrubs along several stream crossings (s1, s2, s4, s5, and s7) will be temporarily impacted and replanted with appropriate native vegetation. Trees and shrubs along the abandoned rail bed will be removed. Agricultural areas will be excavated, but this will not create any impact to the natural environment.

The Town's Preliminary Engineering Report (PER) states: *Letters were sent to the IDNR and the USFWS requesting their review of the project site in regard to listed species and rare plant communities. The IDNR did comment in the permit pertaining to the proposed impacts in the floodway of Eagle Creek that the applicant should "not cut any trees suitable for Indiana Bat roosting (greater than 3 inches dbh, living or dead, with loose or hanging bark) from April 1 through September 30" (Special Condition 2: FW-25071); which, indicates that the project is within range of the Indiana Bat. Abiding by this measure should suffice as mitigating any impacts to this federally endangered species.*

The project will be implemented to minimize impacts to non-listed species and their habitat. Mitigation measures cited in comment letters will be implemented.

Prime Farmland: The proposed projects will not affect prime farmland.

Air Quality: Noise, dust, and odors will be short-term and construction related. The contractor shall use all necessary measures to reduce their impacts.

Open Space and Recreational Opportunities: The proposed project will neither create nor destroy open space and recreational opportunities.

Lake Michigan Coastal Program: The proposed project will not affect the Lake Michigan Coastal Zone.

National Natural Landmarks: The construction and operation of the proposed project will not impact National Natural Landmarks.

B. Indirect Impacts

The Town's Preliminary Engineering Report (PER) states: *The loan applicant will protect sensitive environmental resources such as wetlands, forested areas, steep slopes, 100-year floodplains, and archaeological/historical/architectural resources and the like from future growth and development which will use SRF-funds through appropriate zoning ordinances, proper planning practices and appropriate mitigation.*

C. Comments from Environmental Review Authorities

In correspondence dated April 8, 2009, the Natural Resources Conservation Service stated that the project *will not cause a conversion of prime farmland.*

This document is the first notice to the U.S. Fish and Wildlife Service, the Indiana

Department of Natural Resources (IDNR) Environmental Unit and the IDNR Division of Historic Preservation and Archaeology (DHPA).

The IDNR issued a Certificate of Approval for Construction in a Floodway, application # FW-25071, dated February 13, 2009, which stated:

Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.

Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.

Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches diameter-at-breast height (dbh), living or dead, with loose hanging bark) from April 1 through September 30.

Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.

Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets, follow manufacturer's recommendations for selection and installation; seed and apply mulch on all other disturbed areas.

Plant five trees, at least 2 inches in dbh, for each tree which is removed that is ten inches or greater in dbh.

Implement the mitigation plan received at the Division of Water on November 12, 2008 by the end of spring 2010.

The mitigation site must be monitored for the survival of the plantings for a minimum of three years; a report must be submitted to the Central Regional Environmental Biologist by mailing it to the Division of Water, 402 W. Washington St. Room W264 Indianapolis, IN 46204-2641 by December 31 or each year to monitor the initiation, progress, and success of the mitigation site; the report must include appropriate picture of vegetative plantings, a narrative must describe the activity accomplished to date, acres planted, number planted, list of species planted on site, and estimated survival; reports must be submitted each year, even if the work has not been initiated on site, a minimum of three reports are required with additional reports until the mitigation site is complete or determined to be successful; if the mitigation site is not successful three years after work initiation, the permit will be considered in violation, and another plan must be submitted for approval.

The replacement habitat areas must have a minimum survival of 75% of planted material at the end of the monitoring period of additional plant material must be installed to meet the minimum survival.

Place a restrictive covenant (developed in coordination with the DNR biologist) on the mitigation site property within 60 days of project initiation to protect the mitigation site

from future disturbance; a copy of the covenant must be provided to the Central Regional Environmental Biologist by mailing it to the Division of Water, 402 W. Washington St. Room W264 Indianapolis, IN 46204-2641.

Except for the materials used backfill as shown on the above reference project plans on file at the Division of Water, place all excavated material landward of the floodway.

Do not leave felled trees, brush, or other debris in the floodway.

Upon completion of the project, remove all construction debris from the floodway.

VIII. Mitigation Measures

The Town's Preliminary Engineering Report (PER) states: *Mitigation measures have been discussed regarding temporary impacts to stream riparian areas. Coordination with the IDEM, IDNR, and the Corps have ensured that temporary impacts to natural resources will be mitigated properly. An erosion and sediment control plan will be in place which will include the use of silt fence and other appropriate structural devices to abate sediment transport to nearby streams and waterways. A water pollution prevention plan will assist in reducing the potential for pollutants from construction equipment and associated project materials from entering the nearby streams, waterways and upland areas. Farmland proposed for impacts will be restored to original grade and will be suitable for crop production. Noise will be minimal and will take place during the day. Airborne dust from dry soils will be kept to a minimum. A water truck will be utilized if soils are dry due to abnormal conditions allowing for unusual amounts of airborne particles.*

IX. Public Participation

Zionsville held a properly noticed Public Hearing on September 29, 2009 at 6:00 pm in the Community Room at the Town Hall located at 1100 West Oak Street, Zionsville. There were no written comments received by the utility during the 5-day period following the public hearing.

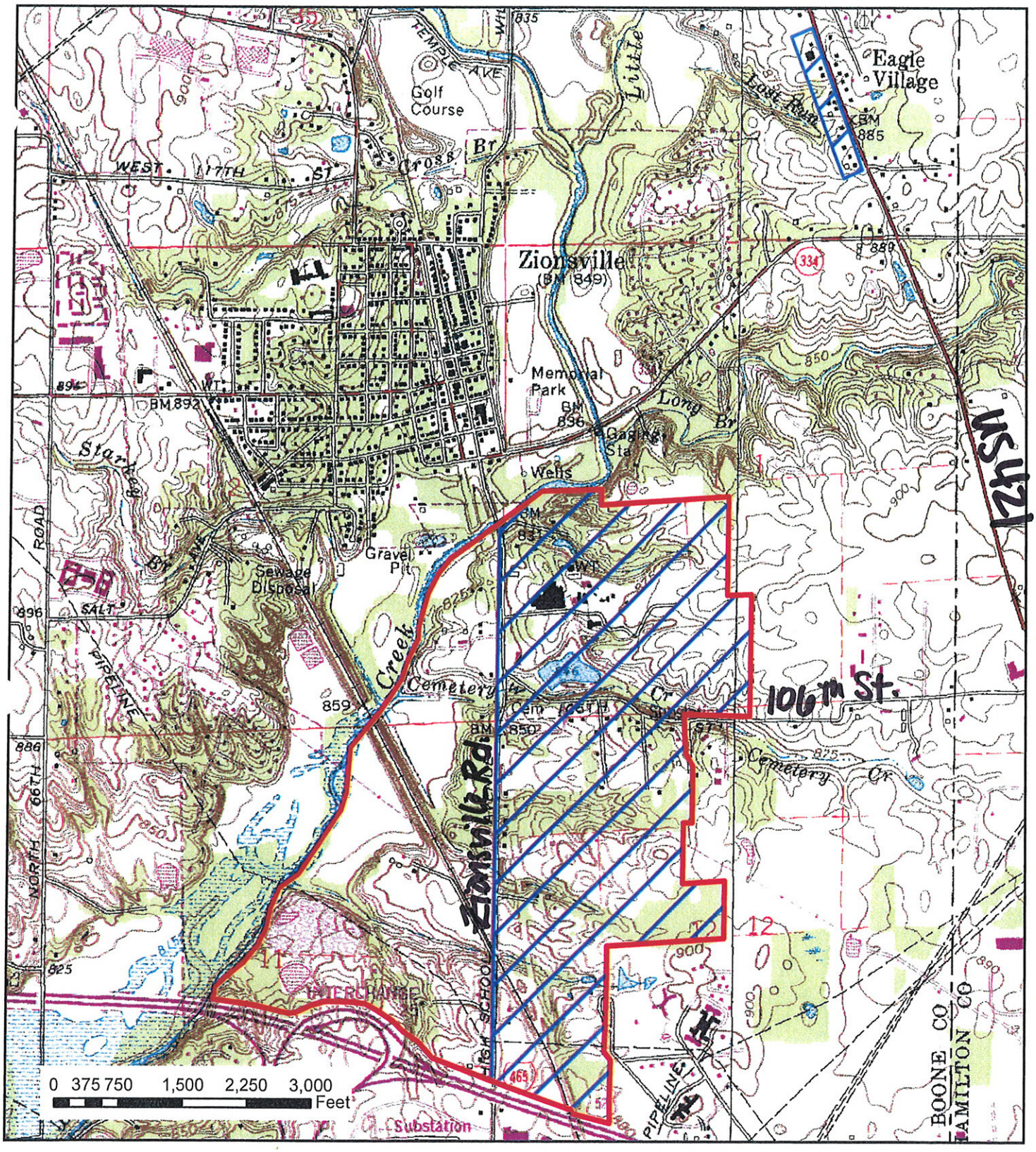

FIGURE 1-1
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
PROJECT LOCATION & STUDY AREA

Legend

- Future Study Area
- Current Study Area

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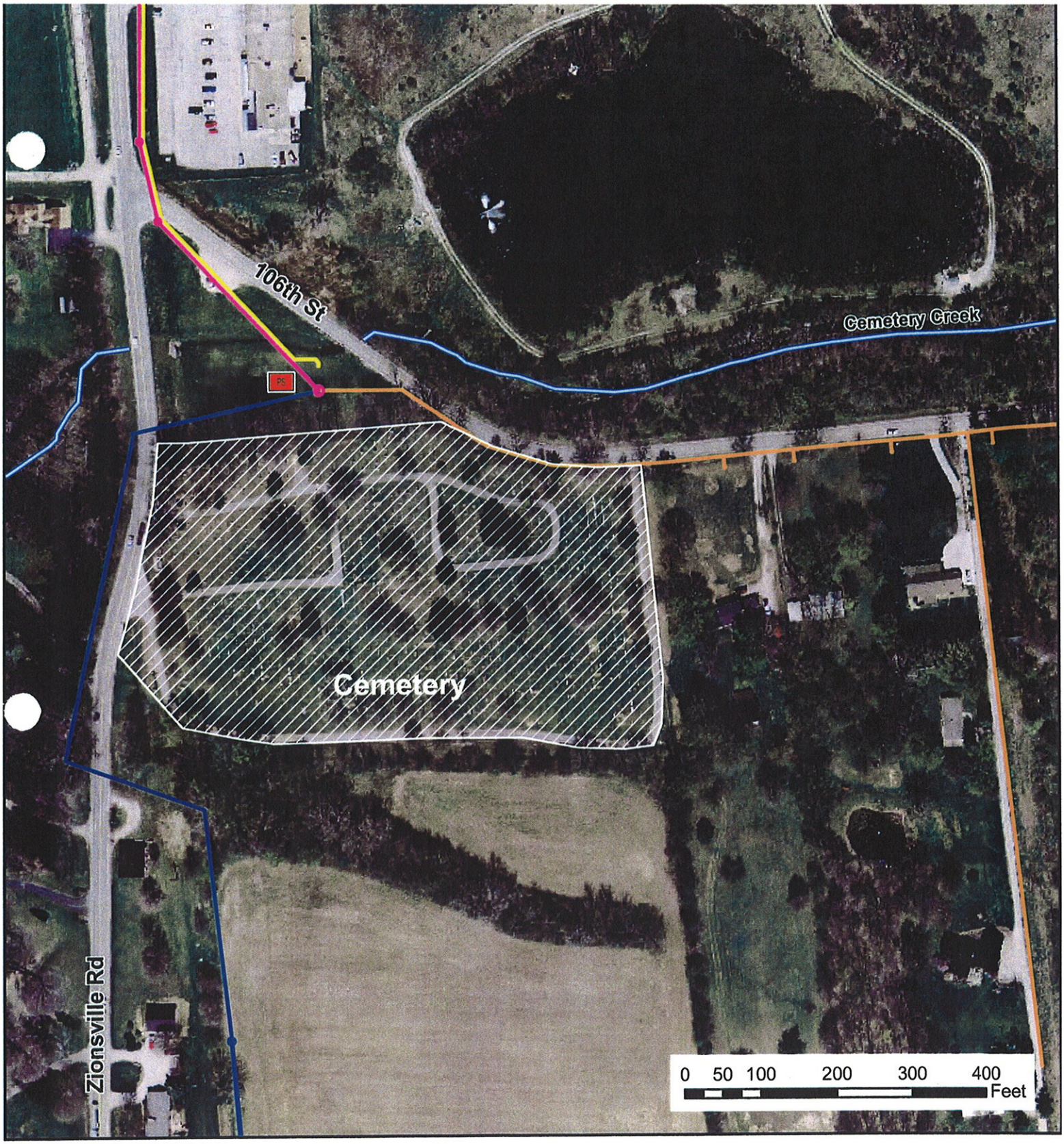

Legend

- PS Lift Station
- Force Main
- North Force Main
- North Sewer
- North Leg
- South Leg
- Waterway/ Stream

FIGURE 5-2
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
CEMETERY LOCATION MAP

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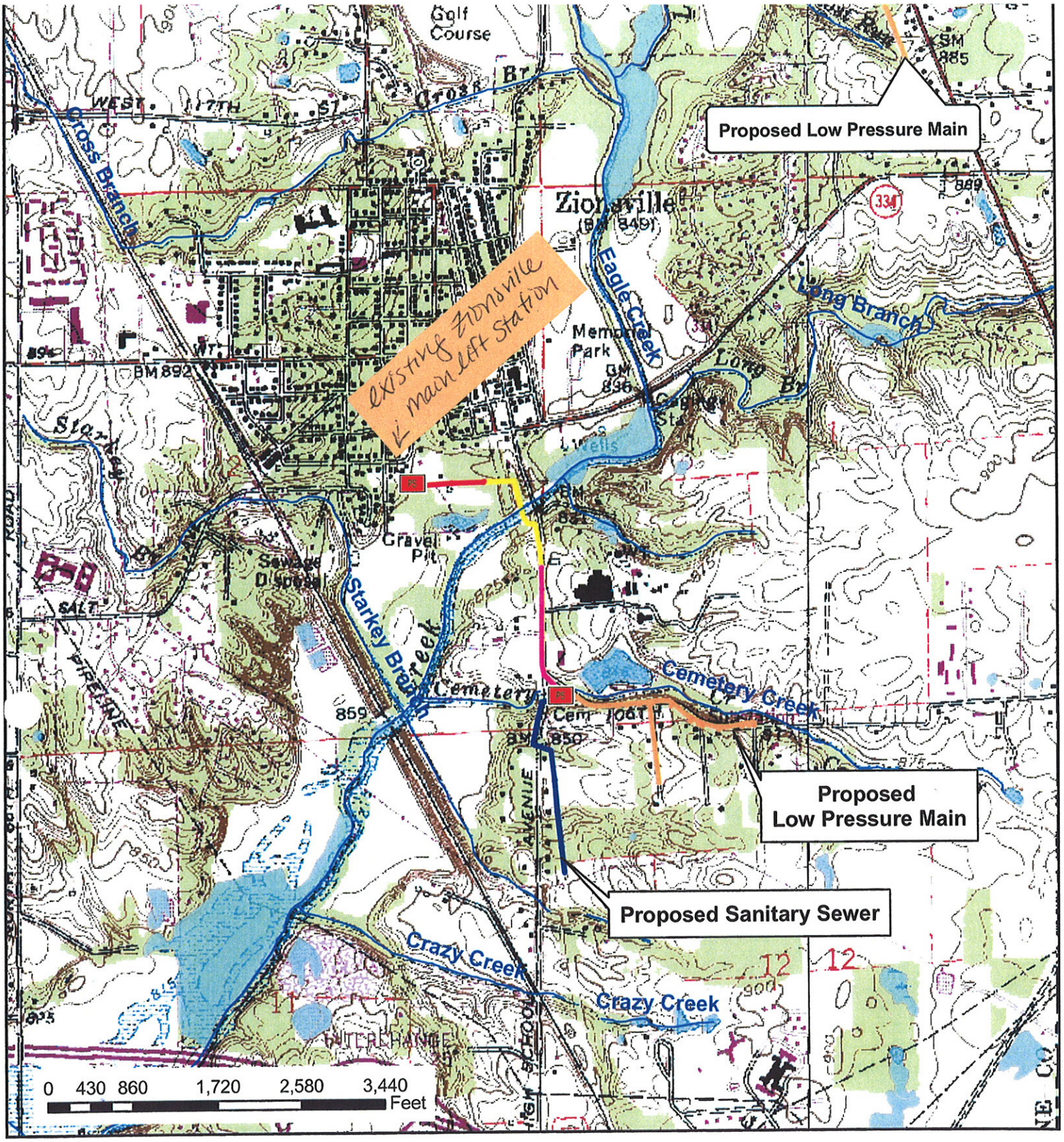

Legend

- Lift Station
- Waterway
- Wetland (NWI)
- Force Main
- North Force Main
- North Sewer
- North Leg
- South Leg

FIGURE 5-3
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
USGS TOPO & NWI WETLANDS MAP

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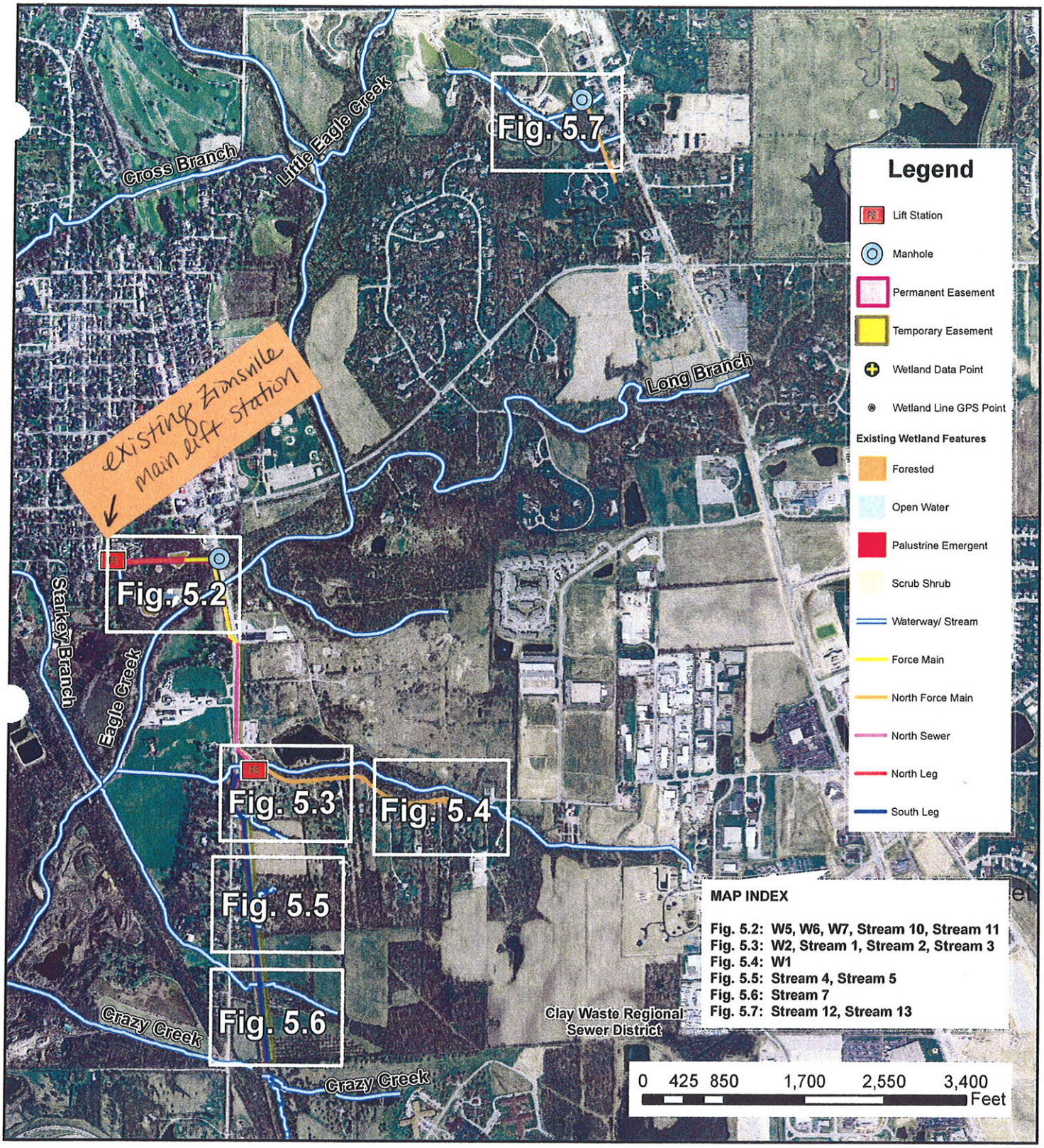

FIGURE 5-5.1
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
DELINEATED WETLAND & WATERBODY
LOCATION KEY MAP

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FIGURE 5-5.2
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
WETLAND & STREAM LOCATION MAP
(W5, W6, W7, S-10 & S-11)

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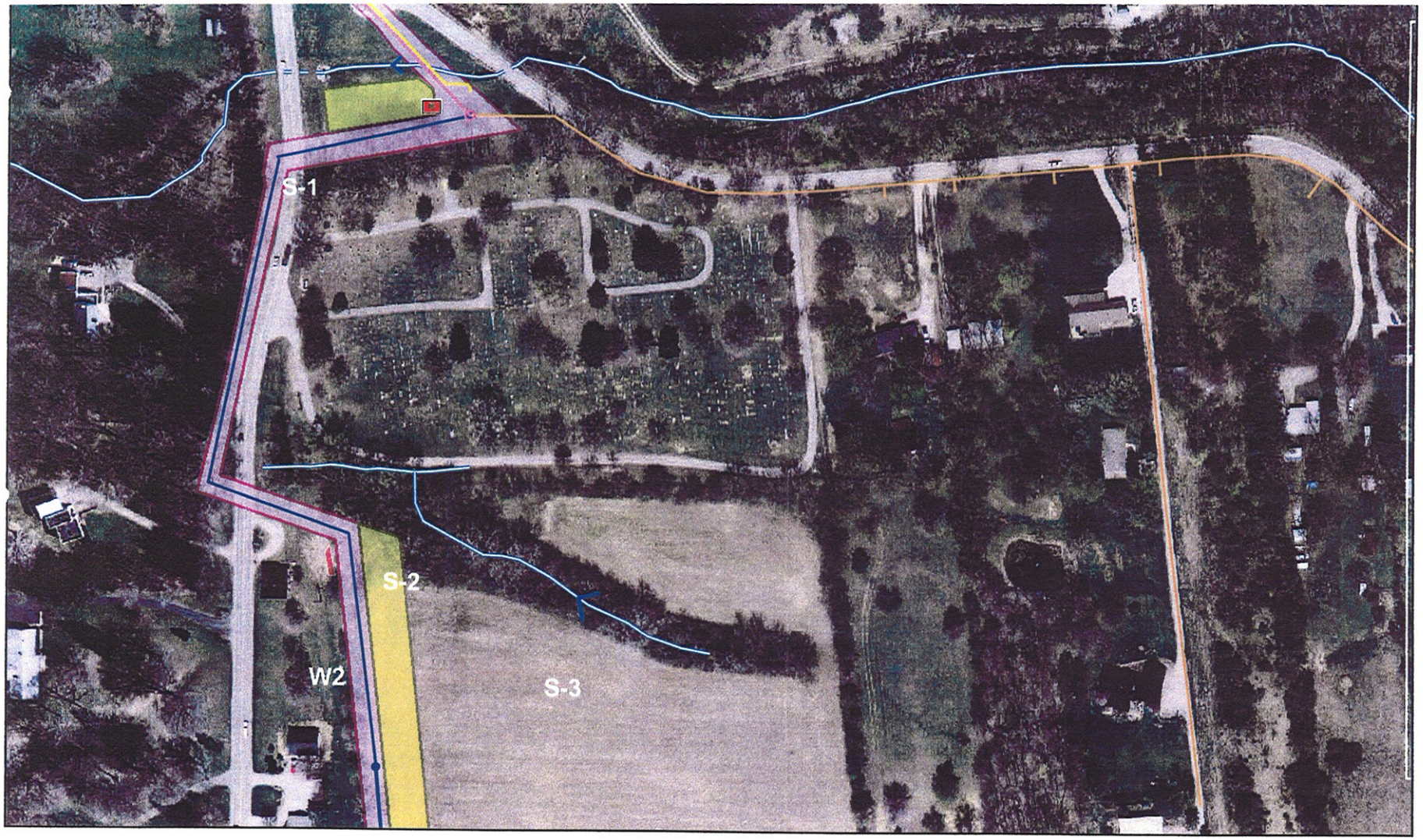

FIGURE 5-5.3
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
WETLAND & STREAM LOCATION MAP
(W2, S-1, S-2 & S-3)

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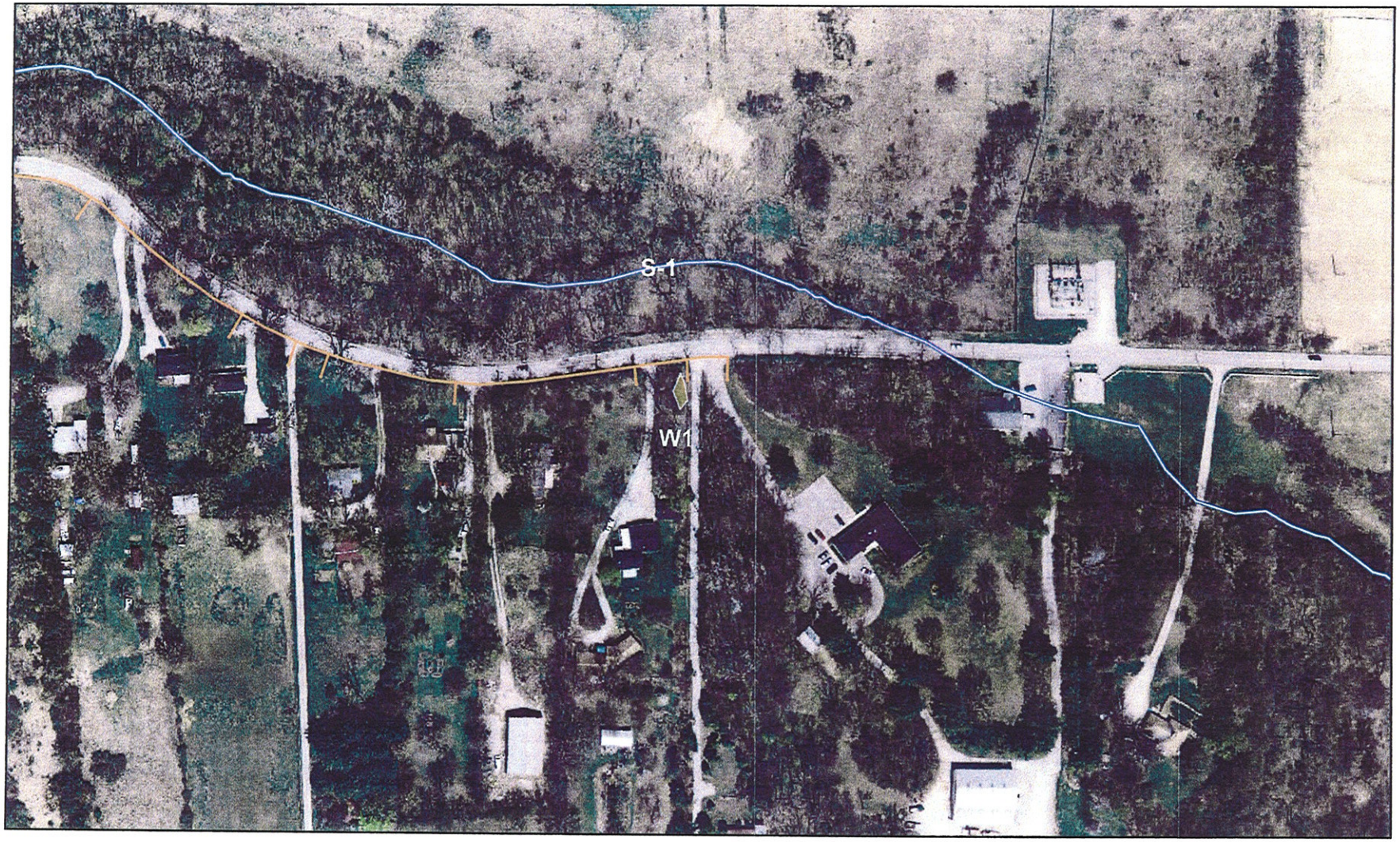

FIGURE 5-5.4
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
WETLAND & STREAM LOCATION MAP
(W1 & S-1)

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FIGURE 5-5.5
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
WETLAND & STREAM LOCATION MAP
(S-4 & S-5)

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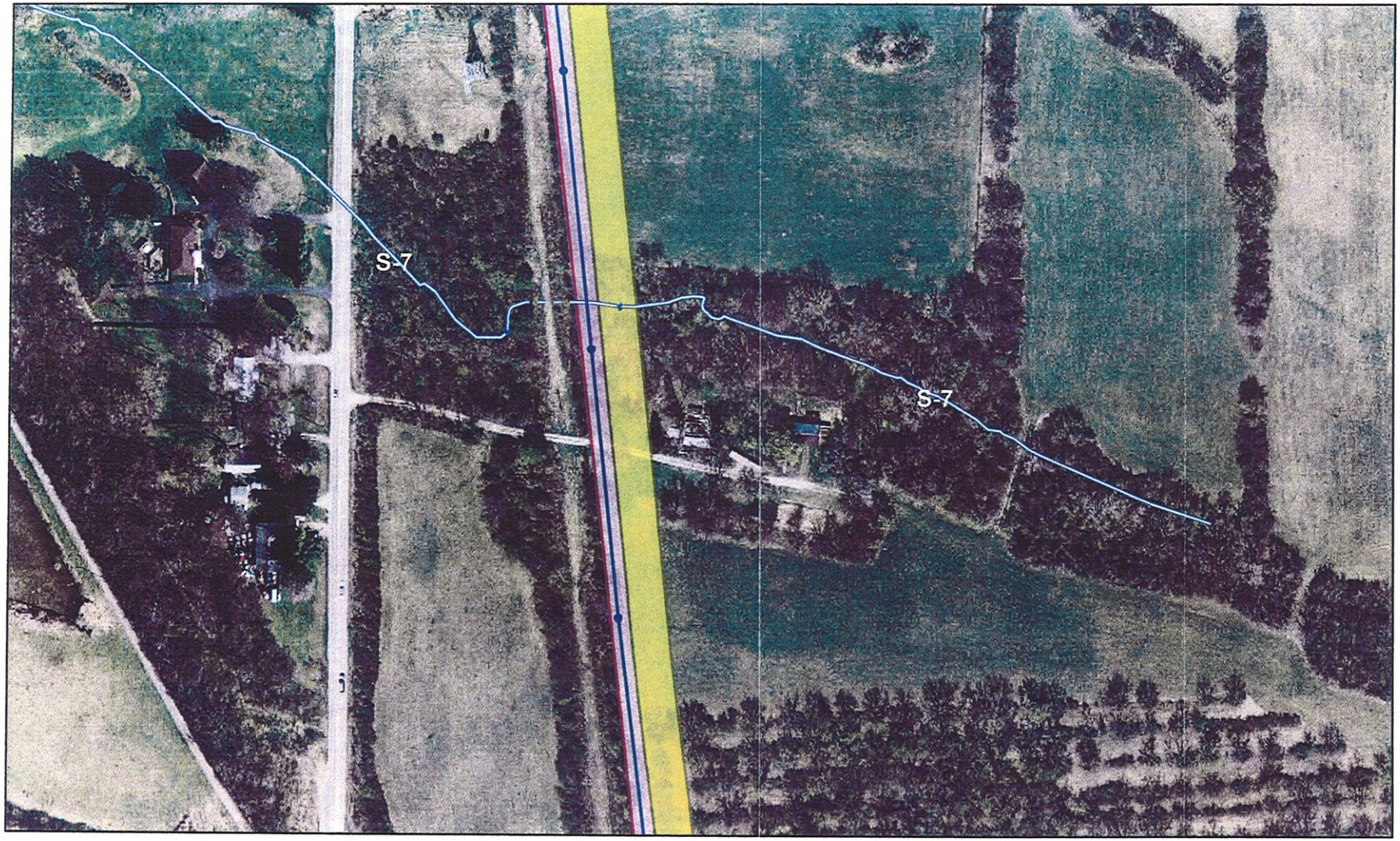

FIGURE 5-5.6
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
WETLAND & STREAM LOCATION MAP
(S-7)

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FIGURE 5-5.7
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
WETLAND & STREAM LOCATION MAP
(S-12 & S-13)

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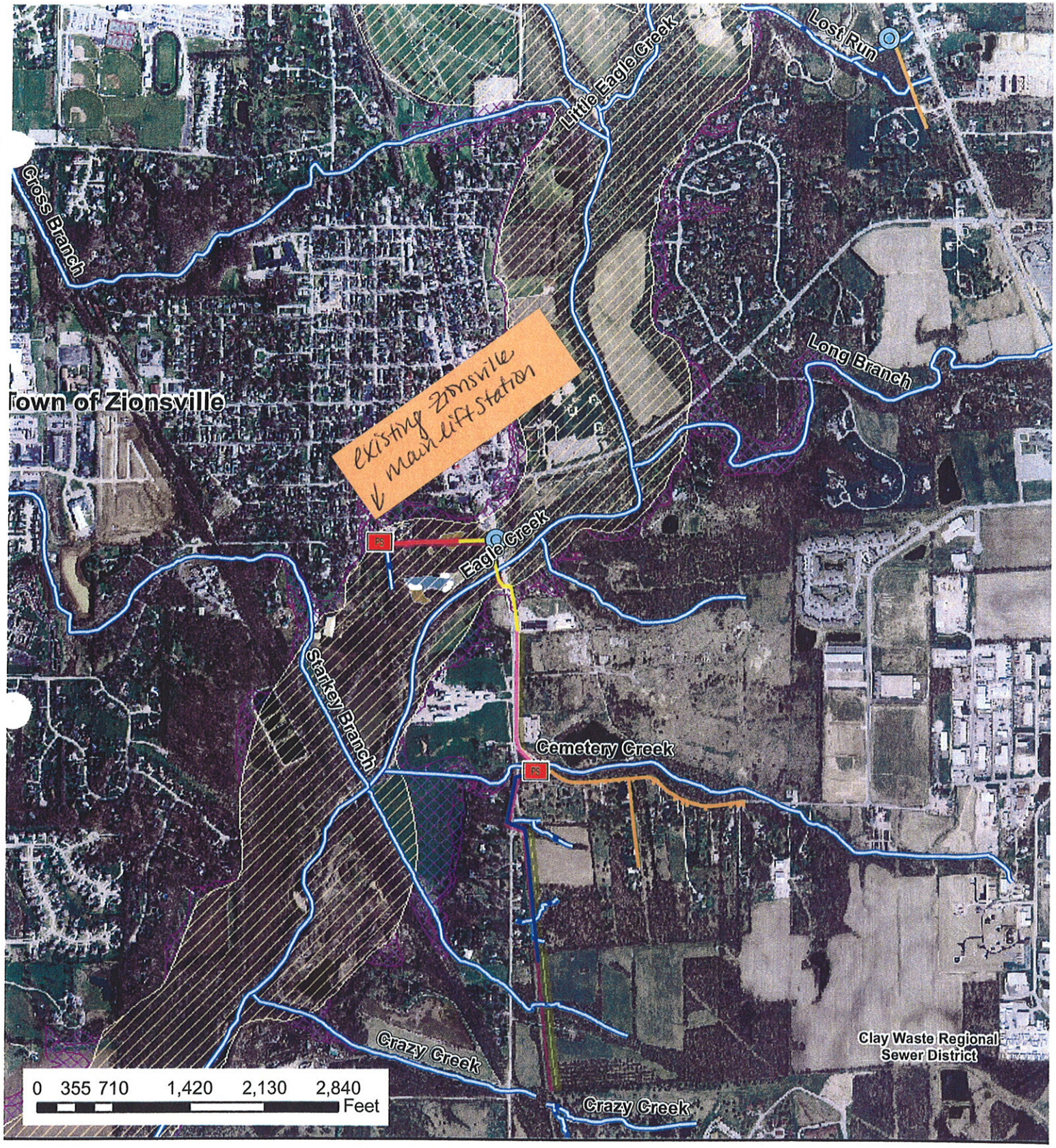

Legend

- PS Lift Station
- Manhole
- Floodplain
- Floodway
- Waterway/ Stream
- Force Main
- North Force Main
- North Sewer
- North Leg
- South Leg

FIGURE 5-6
TOWN OF ZIONSVILLE
SOUTH ZIONSVILLE SEWER PROJECT
FLOODPLAIN MAP

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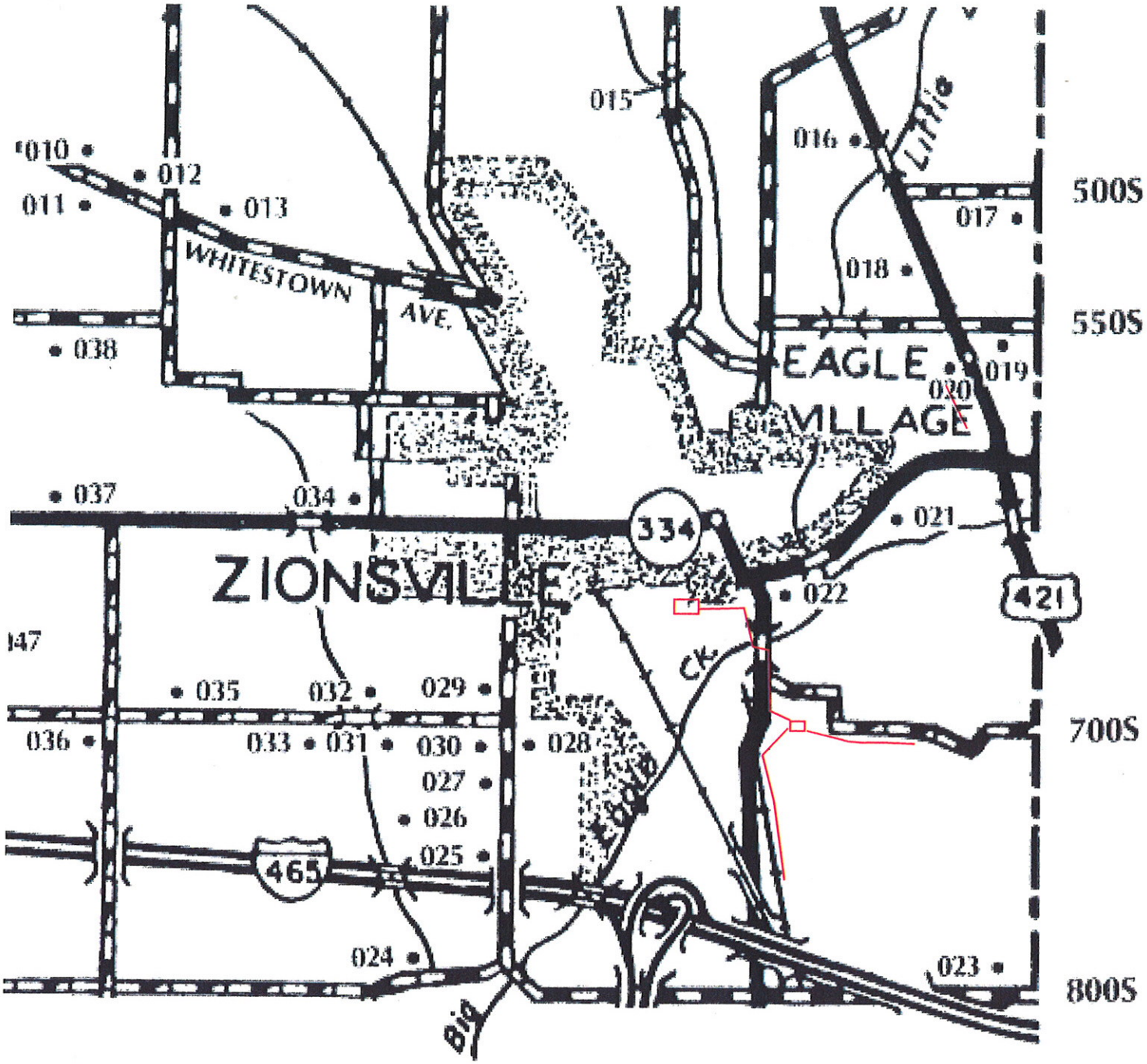

Figure 6

Boone County Interim Report, Page 50
Zoom to Project Area
South Zionsville Sewer
Town of Zionsville, Indiana